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10/797,417	03/10/2004	Robert W. Hjelmeland	DP-310378	4132

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EXAMINER

DANIELSEN, NATHAN ANDREW

ART UNIT	PAPER NUMBER
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2627

MAIL DATE	DELIVERY MODE
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07/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/797,417

Applicant(s)

HJELMELAND, ROBERT W.

Examiner

Nathan Danielsen

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30-33 is/are allowed.
- 6) ☒ Claim(s) 15-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 15-33 are pending. Claims 1-14 were canceled and claims 23-33 were added in applicant's amendment filed 18 December 2006.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 28 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanouda (JP Patent Application Publication 08-279242).

Regarding claim 28, Kanouda discloses a device for at least one of reading and writing to a compact disc (title), comprising:

a hub configured to retain the compact disc (figure 2);

at least one propeller attached to said hub, said at least one propeller extending radially outwardly from said hub (figure 2);

an actuator coupled to said hub and configured to rotate said hub such that said at least one propeller moves air about the compact disc (abstract and figure 2); and

a read/write head wherein a radially outermost tip of said at least one propeller is closer to said hub in a radial direction than is said read/write head (inherent in the device of figure 2 as the read/write head cannot physically contact the propellers of figure 2 when a disc is located on the device of figure 2).

Regarding claim 29, Kanouda discloses a device for at least one of reading and writing to a compact disc (title), comprising:

a hub configured to retain the compact disc (figure 2);

at least one propeller attached to said hub, said at least one propeller extending radially outwardly from said hub (figure 2); and
an actuator coupled to said hub and configured to rotate said hub such that said at least one propeller moves air about the compact disc (abstract and figure 2);
wherein said at least one propeller has a pitch such that air is moved toward the compact disc when said actuator rotates said hub (figure 2).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 15, 17-20, 23, 24, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mukawa (US Patent 5,799,006), in view of Okamoto (JP Patent Application Publication 01-171144, with reference to the corresponding official English translation).

Regarding claims 15, 23, and 24, Mukawa discloses a method for processing a compact disc (and corresponding apparatus), comprising:

placing the compact disc on a rotatable hub (element 2) such that a through hole of the compact disc receives said hub (col. 8, line 12 through col. 9, line 28 and figures 4-7);
engaging the compact disc with a clamper (element 104) such that the compact disc is biased farther onto said hub (col. 8, line 12 through col. 9, line 28 and figures 4-7);
attaching said clamper to said hub (col. 8, line 12 through col. 9, line 28 and figures 4-7); and
rotating said hub such that the compact disc and said clamper also rotate (col. 1, lines 27-39 and figures 4-7).

However, Mukawa fails to disclose where the clamper comprises a fan device and where said fan device moves air about the compact disc to thereby carry heat away from the compact disc.

In the same field of endeavor, Okamoto discloses where the clamper comprises a fan device (figure 8), and where said fan device moves air about the compact disc to thereby carry heat away from the compact disc (page 4: "Effect").

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of Mukawa with the device of Okamoto, for the purpose of eliminating the need for a special motor for generating air flow in an optical disc device (page 4: "Effect").

Regarding claims 17 and 18, Mukawa, in view of Okamoto, discloses everything claimed, as applied to claim 15. However, Mukawa fails to disclose where the rotating step includes blowing air on the CD.

In the same field of endeavor, Okamoto discloses where said rotating step includes blowing air toward the compact disc or drawing air away from the compact disc (figure 2; where one skilled in the art would be able to control the direction of flow of the air drawn through the fan by changing the orientation of the fan blades).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of Mukawa with the device of Okamoto, for the purpose of eliminating the need for a special motor for generating air flow in an optical disc device (page 4: "Effect").

Regarding claims 19 and 26, Mukawa, in view of Okamoto, discloses everything claimed, as applied to claims 15 and 23, respectively. Additionally, Mukawa discloses where said engaging step includes using a compression arm to push said fan device into engagement with the compact disc (col. 8, line 12 through col. 9, line 28 and figures 4-7).

Regarding claims 20 and 27, Mukawa, in view of Okamoto, discloses everything claimed, as applied to claims 15 and 23, respectively. However, Mukawa fails to disclose where said compression arm is integrally formed with said fan device.

In the same field of endeavor, Okamoto disclose where said compression arm is integrally formed with said fan device (figures 4-6 and 8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of Mukawa with the device of Okamoto, for the purpose of eliminating the need for a special motor for generating air flow in an optical disc device (page 4: "Effect").

6. Claims 16, 21, 22, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mukawa, in view of Okamoto, and further in view of Applicant's admitted prior art (hereinafter the AAPA).

Regarding claim 16, Mukawa, in view of Okamoto, discloses everything claimed, as applied to claim 15. However, Mukawa, in view of Okamoto, fails to explicitly disclose how the clamping member including the fan is held in place.

In the same field of endeavor, the AAPA discloses where said attaching step includes placing the clamping member on the hub such that a through hole of said fan device receives said hub with a friction fit (§ 29).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a friction fit to hold a clamping member in contact with a disc, for the purpose of holding the disc in place so the read head can read data from it (§s 28 and 29).

Regarding claim 21, Mukawa, in view of Okamoto, discloses everything claimed, as applied to claim 15. Additionally, Mukawa discloses where said attaching step includes using a compression arm to push the clasper onto said hub device (col. 8, line 12 through col. 9, line 28 and figures 4-7). However, Yabushita, in view of Okamoto, fails to disclose where said fan device is pushed onto said hub with a friction fit.

In the same field of endeavor, the AAPA discloses where said fan device is pushed onto said hub with a friction fit (§ 29).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a friction fit to hold a clamping member in contact with a disc, for the purpose of holding the disc in place so the read head can read data from it (§s 28 and 29).

Regarding claim 22, Mukawa, in view of Okamoto and the AAPA, discloses everything claimed, as applied to claim 21. However, Mukawa fails to disclose where said compression arm is integrally formed with said fan device.

In the same field of endeavor, Okamoto disclose where said compression arm is integrally formed with said fan device (figures 4-6 and 8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of Mukawa with the device of Okamoto, for the purpose of eliminating the need for a special motor for generating air flow in an optical disc device (page 4: "Effect").

Regarding claim 25, Mukawa, in view of Okamoto, discloses everything claimed, as applied to claim 23. However, Mukawa, in view of Okamoto, fails to explicitly disclose how the clamping member including the fan is held in place.

In the same field of endeavor, the AAPA discloses where said attaching step includes placing the clamping member on the hub such that a through hole of said fan device receives said hub with a friction fit (§ 29).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a friction fit to hold a clamping member in contact with a disc, for the purpose of holding the disc in place so that data can be easily read from the disc.

Allowable Subject Matter

7. Claims 30-33 are allowed.
8. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record, either alone or in combination, fails to teach or fairly suggest, in claim 30, where topmost points on each of the top surfaces of the plurality of propeller define a plane non-perpendicular to the axis of rotation. Claims 31-33 are allowed based on their dependency on claim 30, either directly or indirectly.

Response to Arguments

9. Applicant's arguments, see pages 9-14, filed 30 March 2007, with respect to the rejection(s) of claim(s) 15-22 under 35 U.S.C. § 103(a) have been fully considered and are persuasive regarding Yabushita's failure to teach a clasper which biases a compact disc further onto a hub. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Mukawa and Okamoto, as shown above.

10. Applicant's arguments with respect to the Okamoto reference as a secondary reference have been fully considered and are not persuasive.

a. Regarding applicant's argument that the clamping member of Yabushita (US Patent Application Publication 2001/0015951), or the similar one of Mukawa, would teach away from the combination with the clamping member of Okamoto, the examiner disagrees. One of ordinary skill in the art at the time the invention was made would have found it obvious to increase the size of the fan of Okamoto such that it would extend beyond the clasper of Yabushita and/or Mukawa such that element 28 of the clasper of Yabushita, or the equivalent of Mukawa, would still be able to contact and clamp the optical disc and that the fan would be able to move the air adjacent to the optical disc (see MPEP § 2144.04(IV)(A)). It should also be noted that this is a combination of elements, not a substitution as applicant has asserted (bottom of page 9).

b. Regarding applicant's argument that the combination of Yabushita and Okamoto fails to disclose the step of rotating the fan such that the fan blows air towards/away from the optical disc, the examiner disagrees. The discs of Yabushita/Mukawa and Okamoto must be rotated in order to read/write data. Therefore, the fan of Okamoto must also rotate, thereby causing air to move towards/away from the optical disc.

11. Applicant's arguments with respect to claims 30-33 are moot in view of applicant's amendment and subsequent allowance of the claims.

12. Applicant's arguments with respect to claims 28 and 29 have been fully considered but they are not persuasive.

c. Regarding applicant's argument, with respect to claim 28, that "Kanouda does not disclose a read/write head wherein a radially outermost tip of at least one propeller is closer to a hub in a radial direction than is the read/write head", the examiner disagrees. When using the spindle motor/fan/hub device of Kanouda in an optical disc drive, the fan portion would be in closer to a hub in the radial direction than the read write head for at least most of the time the read/write head is reading data from or writing data to an optical disc, especially at the time when the read/write position on the disc is a radially outermost portion of the optical disc. Therefore, this rejection is deemed proper and is hereby maintained.

d. Regarding applicant's argument, with respect to claim 29, that the propeller blades of Kanouda are oriented in a direction such that air is moved away from, instead of toward, an optical disc, the examiner disagrees. Even if the fan device of Kanouda moves air away from the optical disc in the vicinity of the fan device, it still moves air toward the optical disc such that there is air for the fan device to move. Additionally, applicant has not claimed where the air is moved toward the optical disc in the vicinity of the fan device, only that the fan device moves air about the compact disc to carry heat away from the optical disc. Therefore, this rejection is deemed proper and is hereby maintained.

Closing Remarks/Comments


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Danielsen whose telephone number is (571) 272-4248. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:00 PM Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nathan Danielsen
07/06/2007



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PRIMARY EXAMINER